ABSTRACT OF THE DISCLOSURE

Apparatus and methods that approximately solve an actuation allocation problem by breaking the solution into modules, which may or may not be overlapping. The solution to the actuation allocation problem is expressed in terms of solutions for each of the modules. The solutions for the modules serve as constraints for a solution of the optimization problem on each module. The optimization problem for each module is decomposed into further modules until the modules consist of a small enough number of individual implementation units so that the solution for the module can be solved using conventional optimization techniques.